



CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

An ISO 9001:2008 Certified Company

NABL - Accredited Laboratory as per ISO / IEC-17025 : 2005



Job No.: CTCE/BBMP/KRIDL/W.No.13/BC/AIV/2017-18

09.01.2018

TEST REPORT ON IMPACT VALUE OF AGGREGATES

* Customer	: Asst. Executive Engineer, Shettyhalli Sub Division, BBMP, Bangalore.
* Agency	: Technical Manager (West), KRIDL, Bangalore.
* Name of Work	: Improvements to Roads and Asphaltting at Shooting Bungalow road Ravindra Nagara and other roads in Mallasandra Ward No.13, BBMP, Bangalore.
* Reference	: BBMP/EE/DD/WO/142/2017-18 Dated: 21.12.2017
* Sample ID	: Hot mix plant, Bangalore.
* Type of Mix	: Bituminous Concrete
Technical Reference	: IS: 2386 (Part- 4)-1963 (RA-2011)
Date of Testing	: 09.01.2018

Sl No.	Details	Trial No.		Average
		1	2	
1	Total weight of aggregate sample filling the cylindrical measure = W_1 g	385	394	
2	Weight of aggregate passing 2.36 mm sieve after the test = W_2 g	75	82	
3	Weight of aggregate retained 2.36 mm sieve after the test = W_3 g	310	312	
4	Aggregate Impact value = percent fines $100 * (W_2/W_1)$ percent	19.48	20.81	20.15

*Information is furnished by the Customer/Representative.

Comments:

→ Maximum allowable Aggregate Impact value for Bituminous Concrete is 24%

Note:

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→ The results indicated above are based on the tests carried out on the samples received in the laboratory.

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Job No.: CTCE/BBMP/KRIDL/W.No.13/BC/Shape.T/2017-18

09.01.2018

TEST REPORT ON FLAKINESS INDEX & ELONGATION INDEX OF COARSE AGGREGATES

* Customer	: Asst. Executive Engineer, Shettyhalli Sub Division, BBMP, Bangalore.
* Agency	: Technical Manager (West), KRIDL, Bangalore.
* Name of Work	: Improvements to Roads and Asphaltting at Shooting Bungalow road Ravindra Nagara and other roads in Mallasandra Ward No.13, BBMP, Bangalore.
* Reference	: BBMP/EE/DD/WO/142/2017-18 Dated: 21.12.2017
* Sample ID	: Hot mix plant, Bangalore
Technical Reference	: IS : 2386(Part -1)-1963 (RA-2011)
* Type of Mix	: Bituminous Concrete
Date of Testing	: 09.01.2018

Sl.No.	Description	Result
1	Flakiness Index	12.63%
2	Elongation Index	13.49%
3	Combined Flakiness & Elongation Index	26.12%

*Information is furnished by the Customer/Representative.

Comments:

→ Maximum allowable Flakiness & Elongation Index for Bituminous Concrete is 30%

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Job No.: CTCE/BBMP/KRIDL/W.No.13/BC/Stripping/2017-18

11.01.2018

TEST REPORT ON STRIPPING VALUE OF ROAD AGGREGATES (STATIC IMMERSION TEST)

* Customer	: Asst. Executive Engineer, Shettyhalli Sub Division, BBMP, Bangalore.
* Agency	: Technical Manager (West), KRIDL, Bangalore.
* Name of Work	: Improvements to Roads and Asphaltting at Shooting Bungalow road Ravindra Nagara and other roads in Mallasandra Ward No.13, BBMP, Bangalore.
* Reference	: BBMP/EE/DD/WO/142/2017-18 Dated: 21.12.2017
Technical Reference	: IS: 6241
* Type of Mix	: Bituminous Concrete
Date of Testing	: 11.01.2018

Type of binder : 60/70
Percentage of binder used : 5.00% by wt.
Total weight of aggregate : 200 g
Total weight of binder : 10.00 g
Temperature of water-bath : 40° C

Observation Number	Stripping, Percentage	Average, Percentage	Average Retained Coating, %
1	3.1	3.20	96.80
2	3.2		
3	3.3		

*Information is furnished by the Customer/Representative.

Comments:

→ Minimum allowable Aggregate retained coating for Bituminous Concrete is 95%

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Job No.: CTCE/BBMP/KRIDL/W.No.13/BC/Sp.Wa/2017-18

11.01.2018

TEST REEPORT ON SPECIFIC GRAVITY AND WATER ABSORPTION

* Customer	: Asst. Executive Engineer, Shettyhalli Sub Division, BBMP, Bangalore.
* Agency	: Technical Manager (West), KRIDL, Bangalore.
* Name of Work	: Improvements to Roads and Asphaltting at Shooting Bungalow road Ravindra Nagara and other roads in Mallasandra Ward No.13, BBMP, Bangalore.
* Reference	: BBMP/EE/DD/WO/142/2017-18 Dated: 21.12.2017
* Sample ID	: Hot mix plant, Bangalore
Technical Reference	: IS : 2386(Part -3)-1963 (RA-2011)
* Type of Mix	: Bituminous Concrete
Date of Testing	: 11.01.2018

Sl. No.	Details	Notation	Test Number			Mean Value
			Test 1	Test 2	Test 3	
1	Weight of aggregate suspended in water with the basket	$W_1 g$	2017	2015	2018	
2	Weight of basket suspended in water	$W_2 g$	755	755	755	
3	Weight of saturated aggregate in water	$(W_1 - W_2) = W_s g$	1239	1238	1263	
4	Weight of saturated surface dry aggregate in air	$W_3 g$	2020	2022	2024	
5	Weight of water equal to the volume of the aggregate	$(W_3 - W_s) g$	781	784	761	
6	Weight of oven dried aggregate	$W_4 g$	2010	2011	2012	
7	Specific Gravity	$W_4 / (W_3 - W_s)$	2.574	2.565	2.644	2.594
8	Apparent Specific gravity	$W_4 / (W_4 - W_s)$	2.607	2.602	2.686	2.632
9	Water Absorption	$((W_3 - W_4) * 100) / W_4$	0.50%	0.55%	0.60%	0.55%

* Information is furnished by the Customer/Representative.

Comments:

Maximum allowable Aggregate Water absorption value for Bituminous Concrete is 2.0%

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Job No: CTCE/BBMP/KRIDL/W.No.13/BC/Bitumen/2017-18

11.01.2018

TEST REPORT ON BITUMEN CONTENT OF BITUMINOUS CONCRETE MIX

* Customer	: Asst. Executive Engineer, Shettyhalli Sub Division, BBMP, Bangalore.
* Agency	: Technical Manager (West), KRIDL, Bangalore.
* Name of Work	: Improvements to Roads and Asphaltting at Shooting Bunglow road Ravindra Nagara and other roads in Mallasandra Ward No.13, BBMP, Bangalore.
* Reference	: BBMP/EE/DD/WO/142/2017-18 Dated: 21.12.2017
* Sample ID	: Shooting Bunglow road in Mallasandra in at ward no.13,
Technical Reference	: IRC:SP:11-1984
Date of Testing	: 11.01.2018

BITUMEN CONTENT DETERMINATION

Description	Trail 1	Trail 2
1. Weight of Mixture before Test, g	500	500
2. Weight of Mixture after Test, g	471.5	472.5
3. Weight of Asphalt and Mineral matter Extracted, g	-	-
4. Weight of Mineral Matter, g.	-	-
5. Weight of Ash, g		
6. Weight of Bitumen Extracted, g. (corrected)	28.5	27.50
7. Bitumen content in %	5.70	5.50
8. Average	5.60	

* Information is furnished by the Customer/Representative.

Note: ಸಹಾಯಕ ಕಾರ್ಯದರ್ಶಿ, ಬಾಸವೇಶ್ವರನಗರ ಪಾಲಿಕೆ
ಶ್ರೀಮತಿ ಉಪವಿಭಾಗ, ದಾಸರಹಳ್ಳಿ ಪಾಲಿಕೆ
ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ
ಬೆಂಗಳೂರು ರವಿಚಂದ್ರನಗರ ಪಾಲಿಕೆ

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